Letters

Thyroid Nodule Characterization Using Combined Fine-Needle Aspiration and ^{99m}Tc-Sestamibi Scintigraphy Strategy

In the February 2016 issue of the *AJR*, Yerubandi et al. [1] wrote an interesting article on the frequency of thyroid nodules observed incidentally on non–FDG PET nuclear medicine imaging modalities, including ^{99m}Tc-sestamibi radiotracer, the malignancy rate of such nodules, and predictors of malignancy.

To further expand on this point, it has been shown that fine-needle aspiration (FNA) combined with ^{99m}Tc-sestamibi scintigraphy for evaluating cold thyroid nodules larger than 1 cm in diameter is potentially cost-effective in the management of solitary or dominant thyroid nodules [2]. Sestamibi-based strategies have a lower cost per patient and lower cost per cancer diagnosed and are associated with a low radiation burden [2].

We have observed several cases of discrepancies between FNA cytology and ^{99m}Tc-sestamibi scintigraphy results in our practice, which has evaluated more than 1000 cases to date [3, 4] (Fig. 1). Such cases illustrate the potential complexity of diagnosing thyroid nodules, and strategies combining FNA with ^{99m}Tc-sestamibi scintigraphy may also end in diagnostic dilemmas.

The discrepancies and dilemmas described here illustrate the need for a pragmatic approach to training medical practitioners so that they may adapt their treatment strategies for patients with cold thyroid nodules.

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DOI:10.2214/AJR.16.16163
WEB—This is a web exclusive article.

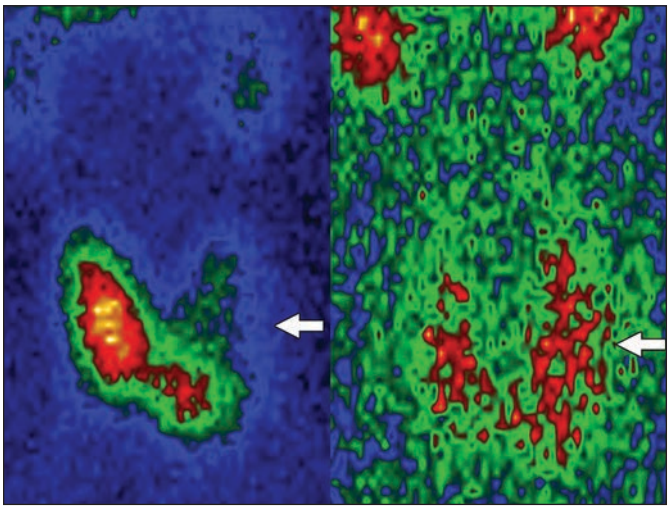

Fig. 1—39-year-old woman with cold thyroid nodule. Scintigraphy with ^{99m}Tc-pertechnetate (*left*) shows nodule on left lobe of thyroid gland. Nodule shows significant radiotracer retention with poor washout (*arrow*), which is also seen on sestamibi scan (*right*). Fine-needle aspiration cytology findings showed nodular goiter, but histopathologic examination showed medullary thyroid carcinoma 4 mm in diameter.

References

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